

BENDIRE'S THRASHER (*Toxostoma bendirei*)

John Sterling, 26 Palm Ave., Woodland CA 95695

Criteria Scores

Population Trend	Range Trend	Population Size	Range Size	Endemism	Population Concentration	Threats
20	15	10	10	0	10	5

Special Concern Priority

Currently considered a Bird Species of Special Concern, Priority 1. Included on CDFG's (1992) unprioritized list and considered a Priority 3 species on the original prioritized list (Remsen 1978).

Breeding Bird Survey Statistics for California

Data inadequate for trend assessment (Sauer et al. 2001).

General Range and Abundance

The Bendire's thrasher's breeding range extends from southern Nevada, Utah and Colorado south through the Mojave Desert in California, Arizona, western New Mexico and Sonora, Mexico. The wintering range encompasses southern Arizona, southwestern New Mexico and Sonora, Mexico. (England and Laudenslayer 1993.)

Seasonal Status in California

Occurs as a summer visitor; breeding season extends from late March to late July. They are rarely found in migration in southern California. Most leave California by late August; very few linger until October or stay the entire winter (Garrett and Dunn 1981; England and Laudenslayer 1993).

Historical Range and Abundance in California

Grinnell and Miller (1944) stated that the Bendire's thrasher population was "far scattered and aggregate numbers small". England and Laudenslayer (1989b) summarized the state's historical records and listed the following locations of breeding populations: 1) Eastern Mojave Region; the southern area of Clark Mountain, the Cima Dome area, the Mid Hills, the Lanfair, Gold, Pinto, and Round valleys, Granite Pass between the Granite and Providence Mountains, 2) Southern Mojave

Region; the Lucerne Valley/Victorville area, the Yucca Valley/Pioneertown area, the Joshua Tree National Park, 3) Colorado Desert Region; the Turtle Mountains and other areas between Needles and Blythe. An additional Colorado Desert breeding-season record is from Whitewater in Riverside County (Grinnell and Miller 1944). Bendire's thrasher status was described as "fairly common in May, 1896" (Heller 1901) in Joshua Tree National Park near Warren's Wells, however, sporadic surveys from 1945-1960 failed to find this species within the national park (Miller and Stebbins 1964).

Recent Range and Abundance in California

The knowledge of the range and abundance of Bendire's thrasher in California was greatly expanded in 1986 and 1987 resulting from focused surveys for the species throughout the Mojave Desert and the northern portions of the Colorado Desert in California (England and Laudenslayer 1987, 1989a and 1989b). A total of 44 transects were surveyed once each year, but only 23 were surveyed both years. Many unknown or poorly-documented populations were found at: the Butterbrecht Spring area (Kern County), the Old Woman Mountains area, the north side of Clark Mountain, the Shadow Valley, the upper Fenner Valley, the area north of Cima Dome, the Ward Valley, the Apple Valley, within and near the Superior Valley north of Barstow and Lee Flat (Inyo County).

During 2001 surveys conducted to update the information from the 1986 and 1987 surveys, only two-three Bendire's thrashers were detected on the western and southern Mojave Desert transects in contrast to 31 and 23 found in 1986 and 1987. In addition, a survey of the Cima Dome transect in June 2001 resulted in no detections as opposed to 10 in 1986. The same points and transects were surveyed and additional points were added to some transects. The only change in the survey protocol was that all transects were surveyed three times in 2001 as opposed to only once in 1986 and 1987. There are two likely explanations for the paucity of thrasher detections in 2001: 1) Bendire's Thrasher populations have declined drastically and 2001 was on the tail end of a long-

term trend; 2) Bendire's Thrasher population sizes in the Mojave Desert vary greatly from year-to-year and that 2001 was an "off year" for the species; and 3) Bendire's thrasher populations in the Mojave Desert experience short-term population cycles and that 2001 was during a downward part of this cycle. Unfortunately, there is no quantified data between 1987 and 2001 that may indicate the nature of Bendire's Thrasher population trends. England and Laudenslayer (1989b) strongly stated that they had an "inadequate understanding of Bendire's Thrasher ecology and populations to draw conclusions about population trends". We are unaware of any research that improves upon this state of knowledge. There is no quantified data on Bendire's thrasher status and abundance in the East Mojave Region since 1987. (Jones & Stokes 2001.)

Ecological Requirements

Information on ecological requirements for the Bendire's thrasher in California comes primarily from the 1986 and 1987 study (England and Laudenslayer 1987, 1989a and 1989b). In the Mojave Desert, nearly all of the Bendire's thrashers breed in dense desert scrub habitat dominated by the Joshua tree (*Yucca brevifolia*), Spanish bayonet (*Yucca baccata*), or Mojave yucca (*Yucca schidigera*). They selectively occupy areas with high density and cover of columnar cholla cactus (*Opuntia* sp.), Mojave yucca and Spanish bayonet as well as perennial shrubs. However, high density of Joshua trees and height of perennial shrubs did not predict the presence of Bendire's thrashers. The composition of plant species varied by location. Some occupied habitat consisted of junipers (*Juniperus* spp.), blackbrush (*Coleogyne ramosissima*), columnar cholla cactus and Joshua trees. At Lee Flat in the north end of their range, Bendire's thrashers occupied habitat with scattered Joshua trees with a shrub cover consisting of: shadscale (*Atriplex confertifolia*), winterfat (*Eurotia lanata*), spiny menodora (*Menodora spinescens*) and spiny hopsage (*Gravia spinosa*). Other occupied habitats consisted of a variety of plants in association with columnar cholla cactus, Joshua tree, Mojave yucca or Spanish bayonet including: creosote bush (*Larrea tridentata*), cheese bush (*Hymenoclea salsola*), squaw-tea (*Ephedra nevadensis*), burro bush (*Ambrosia dumosa*), big

galleta grass (*Hilaria rigida*) and California buckwheat (*Eriogonum fasciculatum*). Bendire's thrashers generally avoid areas with steep slopes and rocky terrain. They were found less frequently in areas with hard, rocky or loose, sandy soils and these areas, including the Antelope Valley, may have unsuitable breeding habitat. All breeding-season records are from elevations between 1900-5800 ft (575-1775 m) but most were found between 3100-5000 ft (950-1525 m).

Threats

Bendire's thrashers occupy small pockets of habitat within the large region of the Mojave Desert and the northern Colorado Desert in California. Much of this region is protected from housing development by the Joshua Tree National Park, Death Valley National Park, The Wildlands Conservancy, the University of California's Burns Reserve, Fort Irwin, Twenty-nine Palms Marine Corps Base, Edwards Airforce Base, China Lake Naval Weapons Center, the East Mojave National Scenic Area and other lands of the Bureau of Land Management. However, some areas in the Apple Valley, the Yucca Valley-Landers-Joshua Tree region, the Indian Wells Valley and the Lucerne Valley have already been heavily developed and these regions are likely to continue to be threatened by rural and urban development. Fragmentation of existing occupied habitat is a primary concern. Other threats include the removal of yuccas and cholla cacti as well as off-road vehicle disturbance during the breeding season. A potential threat of competitive exclusion from appropriate habitat by northern mockingbirds requires investigation.

Management and Research Recommendations

- Create Bendire's thrasher conservation management areas on public lands with existing and historical occupied habitat.
- Determine population sizes.
- Restrict off-road vehicle use to roads within these management areas.
- Restrict yucca and cacti harvesting within these management areas.

- For future housing developments, encourage 20+ acre lot sizes and retain the yuccas and cacti to the fullest extent that is feasible.
- Monitor and investigate the potential competition between northern mockingbirds and Bendire's thrashers. If northern mockingbirds are systematically excluding Bendire's thrashers, then actively manage for the reduction of northern mockingbirds in Bendire's thrasher conservation management areas.
- Monitor and investigate the factors influencing reproductive success of Bendire's thrashers in California. Identify areas that serve as population sources or sinks. Develop management plans that greatly reduce the effects of any adverse factors that may eliminate local or regional breeding populations.

Monitoring Needs

The Bendire's thrasher breeding population in California should be monitored every year until short-term and long-term population trends can be ascertained. At the minimum, all transects and points surveyed in 1986, 1987 and 2001 (England and Laudenslayer 1987 and Jones and Stokes 2001) should be surveyed yearly. Additional transects should be added in areas with potential habitat. Reproductive success should be monitored yearly until there is enough data to discern factors influencing reproductive success and population trends.

Acknowledgments

Thanks to William Widdowson and Kristie Nelson for their help in the 2001 Bendire's thrasher surveys.

Literature Cited

- California Department of Fish and Game. 1992. Bird species of special concern. Unpublished list, July 1992, Calif. Dept. Fish & Game, 1416 Ninth St., Sacramento, CA 95814.
- England, A. S. and. Laudenslayer, Jr., W. F. 1987. Bendire's thrasher survey results. Wildlife and Fisheries Biology, University of California, Davis: unpublished report.

- _____. 1989a. Distribution and seasonal movements of Bendire's thrasher in California. *W. Birds* 20: 97-123.
- _____. 1989b. Review of the Status of Bendire's Thrasher in California. Unpublished report to, Wildl. Mgmt. Div. Admin. Rpt. No. 89-3 (order from Calif. Dept. of Fish and Game, 1416 Ninth St., Sacramento, CA 95814)
- _____. 1993. Bendire's thrasher (*Toxostoma bendirei*) in *The birds of North America* (A. Poole and F. Gill, eds.), No. 71. Acad. Nat. Sci.; Philadelphia.
- Garrett, K. and Dunn, J. 1981. *Birds of Southern California*. Los Angeles Audubon Society, Los Angeles. pp. 408
- Grinnell, J. and Miller, A.H. 1944. *The Distribution of the Birds of California*. Pacific Coast Avifauna No. 27, Cooper Ornithological Soc., Berkeley, CA.
- Heller, E. 1901. Notes on some little-known birds in southern California. *Condor* 3:100.
- Jones & Stokes. 2001. Bendire's Thrasher Survey Results. (J&S 01180.01). Unpublished report prepared for US Bureau of Land Management, California Desert District, Riverside, CA. (order from Jones & Stokes, 2600 V St., Sacramento, CA 95818)
- Miller, A.H. and Stebbins, R.C. 1964. *The Lives of Desert Animals in Joshua Tree National Monument*. Univ. of Calif. Press, Berkeley, Los Angeles and London. pp. 452.
- Remsen, J.V. Bird species of special concern in California: An annotated list of declining or vulnerable bird species. Nongame Wildl. Invest., Wildl. Mgmt. Branch Admin. Rept. 78-1. Calif. Dept. Fish & Game, 1416 Ninth St., Sacramento, CA 95814.
- Sauer, J. R., Hines, J. E., and Fallon, J. 2001. *The North American Breeding Bird Survey, Results and Analysis 1966 - 2000*. Version 2001.2, USGS Patuxent Wildlife Research Center, Laurel, MD (<http://www.mbr.nbs.gov/bbs/bbs.html>).